WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device, comprising the steps of:

planarizing an insulating film formed over a substrate having an insulating surface;

forming a plurality of electrodes on the insulating film;

forming an insulating layer so as to cover the plurality of electrodes; and

planarizing surfaces of the plurality of electrodes and a surface of the insulating layer so that they become flush with each other, thereby filling boundary portions between the plurality of electrodes with the insulating layer.

2. A method according to claim 1, wherein mechanical polishing is performed in each of the planarizing steps.

3. A method according to claim 1, wherein the insulating layer is light interruptive.

4. A method according to claim 1, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

5. A method of manufacturing a semiconductor device comprising the steps of:

planarizing an insulating film formed over a first substrate;

forming striped electrodes on the insulating film;

forming an insulating layer so as to cover the striped electrodes; and

planarizing surfaces of the striped electrodes and a surface of the insulating layer so that they become flush with each other, thereby filling boundary portions between the striped electrodes with the insulating layer; and

forming a liquid crystal layer between the first substrate and a second transparent substrate.

6. A method according to claim 5, wherein mechanical polishing is performed in each of the planarizing steps.

7. A method according to claim 5, wherein the insulating layer is light interruptive.

8. A method according to claim 5, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

9. A method of manufacturing a semiconductor device, comprising the steps of:

forming a plurality of semiconductor elements over a substrate having an insulating surface;

forming an interlayer insulating film over the semiconductor elements;

planarizing the interlayer insulating film;

forming pixel electrodes that are electrically connected to the respective semiconductor elements on the interlayer insulating film;

forming an insulating layer so as to cover the pixel electrodes; and

planarizing surfaces of the pixel electrodes and a surface of

the insulating layer so that they become flush with each other, thereby filling boundary portions between the pixel electrodes with the insulating layer.

10. A method according to claim 9, wherein mechanical polishing is performed in each of the planarizing steps.

11. A method according to claim 9, wherein the insulating layer is light interruptive.

12. A method according to claim 9, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

13. A method according to claim 9, wherein the semiconductor elements are thin-film transistors.

14. A method of manufacturing a semiconductor device, comprising the steps of:

forming a plurality of semiconductor elements arranged in matrix form over a first substrate;

forming an interlayer insulating film over the semiconductor elements;

planarizing the interlayer insulating film;

forming a plurality of pixel electrodes that are electrically connected to the respective semiconductor elements on the interlayer insulating film;

forming an insulating layer so as to cover the pixel electrodes;

planarizing surfaces of the pixel electrodes and a surface of the insulating layer so that they become flush with each other, thereby filling boundary portions between the pixel electrodes with the insulating layer; and

forming a liquid crystal layer between the first substrate and a second transparent substrate.

15. A method according to claim 14, wherein mechanical polishing is performed in each of the planarizing steps.

16. A method according to claim 14, wherein the insulating layer is light interruptive.

17. A method according to claim 14, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

18. A semiconductor device comprising:

a plurality of electrodes formed over a substrate having an insulating surface;

a DLC film covering the plurality of electrodes; and

an insulating layer over the DLC film so as to be buried in boundary portions of the plurality of electrodes.

19. A semiconductor device according to claim 18, wherein the DLC film has a thickness in a range of 10 to 50 nm.

20. A semiconductor device according to claim 18, wherein the insulating layer is light interruptive.

21. A semiconductor device according to claim 18, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

22. A semiconductor device comprising:

a first substrate having insulating surface;

a second transparent substrate;

a liquid crystal layer held between the first and second substrates;

striped electrodes formed over the first substrate;

a DLC film covering the striped electrodes; and

an insulating layer over the DLC film so as to be buried in boundary portions of the striped electrodes.

23. A semiconductor device according to claim 22, wherein the second substrate has another striped electrodes thereon.

24. A semiconductor device according to claim 22, wherein the insulating layer is light interruptive.

25. A semiconductor device according to claim 22, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

26. A semiconductor device comprising:

a plurality of semiconductor elements formed in matrix form over a substrate having an insulating surface;

a plurality of pixel electrodes connected to the respective

semiconductor elements;

a DLC film covering the pixel electrodes; and

an insulating layer buried in boundary portions of the pixel electrodes.

27. A semiconductor device according to claim 26, wherein the insulating layer is light interruptive.

28. A semiconductor device according to claim 26, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

29. A semiconductor device according to claim 26, wherein the semiconductor elements are thin-film transistors.

30. A semiconductor device comprising:

a substrate having a plurality of semiconductor elements arranged in matrix form and a plurality of pixel electrodes connected to the respective semiconductor elements;

a DLC film covering the pixel electrodes; and

an insulating layer buried in boundary portions of the pixel electrodes.

a liquid crystal layer held over the insulating film and the DLC film.

31. A semiconductor device according to claim 30, wherein the DLC film has a thickness in a range of 10 to 50 nm.

32. A semiconductor device according to claim 30, wherein the

insulating layer is light interruptive.

33. A semiconductor device according to claim 30, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

34. A method of manufacturing a semiconductor device, comprising the steps of:

forming a plurality of electrodes over a substrate having an insulating surface;

forming a DLC film to cover the plurality of electrodes;

forming an insulating layer on the DLC film; and

planarizing the insulating layer so that a surface of the DLC film and a surface of the insulating layer become flush with each other, thereby filling boundary portions of the plurality of electrodes with the insulating layer.

35. A method according to claim 34, wherein mechanical polishing is performed in the planarizing step.

36. A method according to claim 34, further comprising, before the step of forming the DLC film, the step of planarizing the plurality of electrodes.

37. A method according to claim 34, wherein the insulating layer is light interruptive.

38. A method according to claim 34, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type

material is dispersed.

39. A method of manufacturing a semiconductor device, comprising the steps of:

forming striped electrodes over a first substrate;

forming a DLC film to cover the striped electrodes;

forming an insulating layer on the DLC film;

planarizing the insulating layer so that a surface of the DLC film and a surface of the insulating layer become flush with each other, thereby filling boundary portions of the striped electrodes with the insulating layer; and

forming a liquid crystal layer between the first substrate and a second transparent substrate.

40. A method according to claim 39, wherein mechanical polishing is performed in the planarizing step.

41. A method according to claim 39, further comprising, before the step of forming the DLC film, the step of planarizing the striped electrodes.

42. A method according to claim 39, wherein the insulating layer is light interruptive.

43. A method according to claim 39, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.

44. A method according to claim 39, wherein the DLC film has a

thickness in a range of 10 to 50 nm.

45. A method of manufacturing a semiconductor device, comprising the steps of:

forming a plurality of semiconductor elements over a substrate having an insulating surface;

forming a plurality of pixel electrodes that are electrically connected to the respective semiconductor elements;

forming a DLC film to cover the pixel electrodes;

forming an insulating layer on the DLC film; and

planarizing the insulating layer so that a surface of the DLC film and a surface of the insulating layer become flush with each other, thereby filling boundary portions of the pixel electrodes with the insulating layer.

46. A method according to claim 45, wherein mechanical polishing is performed in the planarizing step.

47. A method according to claim 45, further comprising, before the step of forming the DLC film, the step of planarizing the pixel electrodes.

48. A method according to claim 45, wherein the semiconductor elements are thin-film transistors.

49. A method according to claim 45, wherein the insulating layer is light interruptive.

50. A method according to claim 45, wherein the insulating layer

is an organic resin film in which a black pigment or a carbon-type material is dispersed.

51. A method of manufacturing a semiconductor device comprising the steps of:

forming a plurality of semiconductor elements arranged in matrix form over a substrate;

forming a plurality of pixel electrodes connected to the respective semiconductor elements, with at least one interlayer insulating film interposed therebetween;

forming a DLC film to cover the pixel electrodes;

forming an insulating layer on the DLC film; and

planarizing the insulating layer so that a surface of the DLC film and a surface of the insulating layer become flush with each other, thereby filling boundary portions of the plurality of the pixel electrodes with the insulating layer; and

forming a liquid crystal layer over the planarized insulating layer.

52. A method according to claim 51, wherein mechanical polishing is performed in the planarizing step.

53. A method according to claim 51, further comprising, before the step of forming the DLC film, the step of planarizing the pixel electrodes.

54. A method according to claim 51, wherein the insulating layer is light interruptive.

55. A method according to claim 51, wherein the insulating layer is an organic resin film in which a black pigment or a carbon-type material is dispersed.